SOV/ 137-58-7-14023

Experiences in the Concentration of the Polymetallic (cont.)

class) with a content of 0.04% Cu, 0.16% Pb, and 0.19% Zn, with extraction (from the 35-5 mm class) respectively of 7.5%, 6.5%, and 4.5%. In the concentrate, the Cu, Pb, and Zn contents were 0.8%, 3.62%, and 6.19%, with recovery of 92.5%, 93.5%, and 95.5% of the class. It was found desirable to have separate concentration of the 10-5 and 10-35 mm classes. Losses of PbS in the tailings were 45 g per t starting ore.

I. M.

1. Sulfide ores--Processing 2. Sulfide ores--Separation

Card 2/2

POL'KIN, S.I.; ZHAVORONOK, V.I.; LUNIN, V.D.

Using tanning substances obtained from Kazakhstan and Central Asia plants for the flotation of certain minerals. Izv.vys.uchob.zav.; tsvet.met. 8 no.2:18-20 '65. (MIRA 19:1)

1. Kafedra obogashcheniya rud redkikh i radioaktivnykh metallov Moskovskogo instituta stali i splavov.

POL'KIN, S.I.; ZHAVORONOK, V.I.

Effect of sodium fluosilicate in the flotation of tantalite, cassiterite and garnet. Tsvet. met. 38 no.11:51-52 N '65. (MIRA 18:11)

ZHAVORONOK, V.Ye.

We are improving our service to the public. Vest. sviazi 23 no.9:16-18 S '63. (MIRA 16:10)

1. Nachal'nik Kiyevskogo pochtamta.

SOV/137-59-3-6961

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 3, p 290 (USSR)

AUTHOR: Zhavoronov, V. A.

TITLE: Production of Shells in the Form of Bodies of Revolution by the Helical Cross-rolling Method (Polucheniye tel vrashcheniya metodom poperechno-vintovoy prokatki)

PERIODICAL: Tr. Mezhvuz. nauchno-tekhn. konferentsii na temu: "Sovrem. dostizh. prokatn. proiz-va". Leningrad, 1958, pp 230-233

ABSTRACT: The possibility of obtaining shells in the shape of bodies of revolution by means of helical cross-rolling of cold billets of Al and Cu alloys, as well as of C steel (~0.5% C), was studied on a three-high, type-"10" rolling mill. Compared with hot rolling (R), the rate of delivery of the metal from the rolls was 30% lower; the strain rate amounted to 5-8 sec^{-1}. During R of steel specimens 5.2 - 9 mm in diameter the mean specific pressure amounted to 280 kg/mm^2, while the total roll pressure attained a value of 2.5 tons. As a result of a 50% reduction, the σ_b value of steel specimens increased from 55 to 70 kg/mm^2, the hardness diminishing sharply toward the center of the billet (H_{surf}=370 kg/mm^2, H_{core}=260 kg/mm^2) This phenomenon of

Card 1/2

SOV/137-59-3-6961

Production of Shells in the Form of Bodies of Revolution (cont.)

surface hardening of billets with a relatively soft core may be utilized advantageously in components operating under abrasive conditions and subjected to heavy loads. The surface finish of the cold-rolled specimens (reduction of 1.5-2) is sometimes comparable to that obtained by polishing, a circumstance which, in a number of instances, eliminates the need for finishing operations.

V. D.

Card 2/2

NEFEDOV, A.Ya.; ZHAVORONOK, V.Ye.; KON'KOV, N.O.

Conference of telecommunication workers by mail. Vest. sviazi 22 no.5:20-23 My '62. (MIRA 15:5)

1. Nachal'nik Ivanovskogo oblastnogo upravleniya svyazi (for Nefedov). 2. Nachal'nik Kiyevskogo pochtamta (for Zhavoronok). 3. Nachal'nik Ryazanskoy rayonnoy kontory svyazi (for Kon'kov).
(Telecommunication—Employees)

ZIL'BER, M.K., kand.tekhn.nauk; CHERNYY, A.S., inzh.; ZHAVRID, A.I., inzh.; MUSATOV, V.M. [deceased], inzh.

Operating a slag pumice unit with a stationary tank at the Chelyabinsk Metallurgical Plant. Stroi. mat. 7 no.4:10-12 Ap '61. (MIRA 14:5)

(Slag) (Aggregates (Building materials))

YEMEL'YANOV, V.A.; ZHAVRID, G.P.

Methods for a numerical solution of problems arising in optical examinations of axially symmetric inhomogeneities. Inzh.-fiz.zhur. 5 no.4:64-70 Ap '62. (MIRA 15:4)

1. Institut matematiki i vychislitel'noy tekhniki AN BSS, Minsk.
(Gas dynamics) (Interferometry)

35416

S/170/62/005/004/007/016
B102/B104

10.1200

AUTHORS: Yemel'yanov, V. A., Zhavrid, G. P.

TITLE: A method of numerical solution of problems arising in optical investigations of axisymmetric inhomogeneities

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 5, no. 4, 1962, 64 - 70

TEXT: A method is proposed for calculating the density distribution in axisymmetric gas flows from the interference spectra of the axisymmetric bodies in the flows. If the density distribution is known, problems of heat- and mass exchange, heat conduction and aerodynamic forces can be solved. The calculation technique suggested allows quick and accurate calculation of density distributions from the shift S(y,z) of interference bands and the angles of deviation E(y,z) of light rays obtained from interferograms and schlieren photographs. The formulas used read

$$\rho(\bar{r}_i) - \rho_0 = \frac{\lambda}{k} \sum_{\mu=i-1}^{2N-1} \gamma_{i\mu} S(r_\mu). \qquad (4) \text{ and}$$

Card 1/3

$$\rho(\bar{r}_i) - \rho_0 = \frac{1}{k} \sum_{\mu=1}^{2N-1} \beta_{i\mu} E(\bar{r}_\mu). \qquad (7)$$

where $\bar{r}_i = y/R = i/2N$ ($i = 1,2,\ldots 2N-1$), y is the coordinate of the entrance of the light ray into the inhomogeneity of radius R, r is the running coordinate, ρ_0 the density at the boundary of the inhomogeneity, k the Gladstone-Dale constant, and λ the light wavelength. The reduction of the calculation time is due to the possible reduction of the number N of zones. The coefficients $\gamma_{i\mu}$ and $\beta_{i\mu}$ are tabulated for N = 10. The applicability of the method was checked numerically and compared with experimental results. The agreement was satisfactory. Calculations were carried out for N = 5, 10, 25, and 50; N = 50 is only needed if S(r) and E(r) display sudden changes. There are 1 figure, 3 tables, and 5 references: 1 Soviet and 4 non-Soviet. The two references to English-language publications read as follows: F. Bennet et al. J. Appl. Phys. 23, No. 4, 453, 1952; E. F. Geirnee, J. Appl. Phys. 26, No. 7, 918, 1955.

A method of numerical solution... S/170/62/005/004/007/015
B102/B104

ASSOCIATION: Institut matematiki i vychislitel'noy tekhniki AN BSSR, g. Minsk (Institute of Mathematics and Computer Technique AS BSSR, Minsk)

SUBMITTED: July 15, 1961

Card 3/3

ZHAVRID, G.P.

Nilpotent subgroups of an alternating group. Vestsi AN BSSR. Ser.fiz.-mat.nav. no.2:110-112 '65.

(MIRA 19:1)

ZHAVRID, V. M.: Master Med Sci (diss) -- "The functional state of the thyroid gland in chronic tonsillitis (Material on the pathogenesis of thyrotoxicosis)". Minsk, 1958. 15 pp (Minsk State Med Inst), 200 copies (KL, No 14, 1959, 123)

ZHAVRID, V.M.

Study of thyroid gland function by means of radioactive iodine (I^{131}) during chronic tonsillitis and following its treatment by various methods. Sbor.nauch.rab.Bel.nauch.-issl.kozno-ven.inst. 6:61-62 '59. (MIRA 13:11)

(THYROID GLAND)
(IODINE--ISOTOPES)
(TONSILS--DISEASES)

ZHAVRID, V.M., kand.med.nauk

Significance of chronic tonsillitis in the pathogenesis of thyrotoxicosis. Vrach.delo no.2:144-145 F '63. (MIRA 16:5)

1. Kafedra gospital'noy terapii (zav. - prof. G.Kh.Dovgyallo) Minskogo meditsinskogo instituta.
(TONSILS—DISEASES) (THYROID GLAND—DISEASES)

ZHAYLOV, P.A., inzh.

Selection of effective dimensions of T-type tail sections of steam turbines with blade collars taking into account friction forces on the supporting surfaces. Energomashinostroenie. 11 no.2:36-37 F '65. (MIRA 18:4)

ZHAYLOV, P.A., inzh.

Oil-protection equipment of turbine rotors with air sealing. Sudostroenie 25 no.3:62-63 Mr '59. (MIRA 12:5)
(Impellers)

ZHAYLOV, P.A., inzh.

Diaphragm of new design for steam turbines. Sudostroenie 23 no.12:53-54 D '57. (MIRA 11:2)

(Steam turbines)

ZHAYLOV, P.A., inzh.

Flexible support for bearing chairs. Sudostroenie 24 no.9:71-72 S '58. (MIRA 11:11)
(Bearings) (Marine engineering)

ACCESSION NR: AP5010550 JW/HE/RM

Authors: Brandt, B. B.; Rozlovskiy, A. ...

... explosion, nitrogen oxide, ..., ..., ...

hexane at a constant pressure of 5 atm were determined. In the second, the dependence of the critical concentration of nitrogen on the fuel-gas pressure at the lower ignition limit for the mixture of n-butane, nitric and nitrous oxides

[illegible] of $NO + NO_2$ and $C_6H_{12}+H_2$ was found to be 780-800°. [illegible] self-ignition [illegible] air the self-[illegible]

ASSOCIATION: none

MUN, A.I.; ZHAYMINA, R.Ye.; BEETUROV, A.B.

Potassium, bromine, and boron content of Kazakhstan salt lakes.
Izv.AN Kazakh.SSR.Ser.khim. no.1:3-7 '59. (MIRA 13:6)
(Kazakhstan--Potassium)
(Kazakhstan--Bromine)
(Kazakhstan--Boron)

Legumes

Post-harvest ripening of perennial legume seeds. Dokl. Ak. sel'khoz., 17, No. 8, 1952.

Monthly List of Russian Accessions, Library of Congress November 1952. UNCLASSIFIED.

ZHAVRID, V.M.; MATVEYKOV, G.P.; KOKOSH, A.A.

Changes in the cardiovascular system in chronic tonsillitis. Zdrav. Bel. 8 no.6:10-12 Je'62. (MIRA 16:8)

1. Iz kafedry gospital'noy terapii (zav. - prof. G.Kh. Dovgyallo) Minskogo meditsinskogo instituta.
(TONSILS—DISEASE) (CARDIOVASCULAR SYSTEM—DISEASES)

MUN, A.I.; ZHAYMINA, R.Ye.; BEKTUROV, A.B.

Geochemistry of boron in natural waters of Kazakhstan. Trudy Inst.khim. nauk AN Kazakh.SSR 10:43-57 '64. (MIRA 17:10)

DIGOYEV, Soslanbek Dzakhayevich; ZHAZHIYEV, S.M., red.

[Technical progress and bank credit in the industry of Kirghizistan] Tekhnicheskii progress i bankovskii kredit v promyshlennosti Kirgizii. Frunze, Kirgizgosizdat, 1964. 45 p. (MIRA 18:3)

ZHAZYKOV, I.

Vitamin B_{12} formation by local Azotobacter strains. Vop. biol. i kraev. med. no.4:96-98 '63. (MIRA 17:2)

KAGAZBAYEV, M.; ZHAZYLBEKOV, S.; NOVIKOVA, Ye.I.

Study of gold-bearing ores. Sbor. nauch. trud. Kaz GMI no.19: 164-166 '60. (MIRA 15:3)

(Gold ores) (Ore dressing)

REZNIKOVSKIY, M.M.; ZHBAKOV, B.I.; PANIN, G.F.

Redesigned tearing test machine with a thermal chamber. Kauch.i rez. 22 no.1:51-54 Ja '63. (MIRA 16:6)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.
(Rubber--Testing)

L 27425-66 EWT(m)/EWP(j)/T RM

ACC NR: AP6008404 (A) SOURCE CODE: UR/0374/66/000/001/0082/0086

AUTHOR: Zhbakov, B. I.; Lukomskaya, A. I.; Reznikovskiy, M. M.

ORG: Scientific-Research Institute of the Tire Industry, Moscow (Nauchno-issledovatel'skiy institut shinnoy promyshlennosti)

47
B

TITLE: Certain peculiarities of the strength properties of crystallizing rubbers under increased temperature

SOURCE: Mekhanika polimerov, no. 1, 1966, 82-86

TOPIC TAGS: synthetic rubber, tensile strength, crystallization, thermomechanical property, physical chemistry property, vulcanization

ABSTRACT: Causes of the scattering of tensile strength values at 100C for crystallizing rubber test pieces were investigated. The dependence of the strength distribution on the rate of vulcanization was explained. The previous history of the heat treatment of crystallized rubber has a strong effect on the strength properties of vulcanized rubber. Orig. art. has: 5 figures. [Based on authors' abstract.] [NT]

SUB CODE: 11/ SUBM DATE: 23Feb65/ ORIG REF: 002/

Card 1/1 BK

UDC: 678:43.01.539.4

S/138/63/000/001/005/008
A051/A126

AUTHORS: Reznikovskiy, M. M., Zhbakov, B. I., Panin, G. P.

TITLE: Reconstructed rupturing machine with a heat chamber

PERIODICAL: Kauchuk i rezina, no. 1, 1963, 51 - 55

TEXT: The disadvantages of the РММ-60А (RMM-60A) rupturing machine with a КН-150 (KN-150) heat chamber, used for thermal-resistance testing of rubber, are given: a) the dynamometer gives exact measuring results only for forces exceeding 3 kgf, and in most rubber types, the force, corresponding to 100 - 200% deformations at room temperature does usually not exceed 3 kgf. With an increase in temperature, there is a tendency to a tension drop at a given deformation; b) force measuring errors are introduced by the force transmission system from the sample in the heat chamber to the dynamometer; c) the direct measuring of the useful section by scale ruler or manually shifting the indices is awkward and inaccurate owing to its subjectivity. The НИИШП (NIIShP) laboratory of physico-mechanical measurements has eliminated these shortcomings by developing new units and parts for the above-mentioned machines. An additional indicator dynamometer,

Card 1/2

ZHBANKOV, B.V.; SIDOROV, B.M.

Automatic single-chain OAE elevator for bottle conveying between floors. Trudy UkrNIISP no.9:145-150 '64.

(MIRA 17:10)

USSR/Chemistry of High Molecular Substances. F

Abs Jour : Referat Zhurnal Khimiya, No 6, 1957, 19419.

Author : [redacted] Yermolenko.
Inst : Academy of Sciences of White-Russian SSR.
Title : Infrared Spectra of Cellulose Materials in Shape of Transparent Films Produced From Filaments Under High Pressure.

Orig Pub : Izv. AN BSSR. Ser. Fiz.-Tekhn. N., 1956, No 1, 15-24.

Abstract : The authors record the imperfrections of methods of the study of infrared spectra of cellulose materials, which methods are based on the application of immersion liquids and other substances, permitting to obtain transparent compounds, as well as the imperfections of the study of cellulose in its reclaimes form. The authors developed a method of preparing films of fibrous cellulose compounds by their compression under the pressure of up to 40,000 kg/cm. The study of spectra of such films showed that their

Card 1/2

ZHBANKOV, R.G.

SKELIGAN, A.I.; SHISHKO, A.M.; ZHBANKOV, R.G.

Investigation of celluloses obtained from wood and flax waste.
Dokl. AN BSSR 1 no.1:17-19 Jl '57. (MIRA 11:3)

1. Predstavleno akademikom AN BSSR B.V. Yerofeyevym.
(Cellulose)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002064610015-6"

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002064610015-6"

ZHBANKOV, R.G.

20-1-31/54

AUTHOR SKRIGAN, A.I., SHISHKO, A.M., ZHBANKOV, R.G.,

TITLE The Properties of α-Cellulose Obtained from Thousand Years Old Fossil Pine Wood.
(O svoystvakh α-tsellyulozy, vydelennoy iz iskopayemoy drevesiny sosny tysyacheletnego vozrasta -Russian)

PERIODICAL Doklady Akad. Nauk SSSR, 1957, Vol 115, Nr 1, pp 114 - 117 (U.S.S.R.)

ABSTRACT The production of cellulose and hemicellulose from pine trunks of peat-bogs is of practical importance, especially for the Belorussian SSR. The investigation of cellulose obtained from wood of various ages (from 1 to 140.000 years old) facilitates the disclosure of processes of chemical transformations which took place at relatively low temperatures in the course of many thousand years and were not complicated by any foreign factor. The investigation of terpenes, resinous acids and the wood of thousand years old pines showed that with aging hydrgenation and dehydrogenation processes take place inside the plant tissue, analogous to such a catalysis by Zelinskiy. Processes of decarboxylation and the splitting off of side-chains of the molecules take place at the same time. The dehydration processes and the disproportioning of hydrogen lead to the formation of resinous acids of hydrocarbons. From the carbonhydrat part of the wood carbocyclic compounds develop. For an investigation of the transformation of α-cellulose as dependent on age also were used physical methods besides chemical ones, especially infrared spectroscopy. The celluloses were obtained by the sulphate method. α-cellulose was isolated by treatment of bleached and non-bleached cellulose with 17% NaOH solu-

Card 1/3

The Properties of α-cellulose Obtained from Thousand Years Old Fossil Pine Wood. 20-1-31/54

tion.The content of α-cellulose is highest in 100-150 year old celluloses.lowest in young ones (1 month to 1 year).After 150 years its content decreases.The interglacial periods contain 88%,and contain the least alkali-soluble substances.Thus,the young celluloses have the most homogeneous composition,the inter-glacial ones the most heterogeneous one.From the table it may be seen that the carbon content slightly increases with increasing age,the content of oxygen and hydrogen decreases. Ill.1 shows the spectra of α-celluloses obtained from pine wood.A comparison of the value of the coefficient K in the sphere~3μ for celluloses of various age shows thatthe number of hydroxyls is highest in the youngest,i.e. the June-α-cellulose.With increasing age this number slightly decreases.The decrease of the number of hydroxyles in the inter-glacial α-cellulose is not connected with the occurrence of a double bond C=C. An intensive band at 3333 cm-1 occurs in all spectra of all ages.This indicates that most of the hydroxyles participate in the hydrogen bond,to the highest degree in the youngest celluloses.Further α-cellolose nitrates were produced. Table 2 shows that the degree of polymerization of α-celluloses decreases with age.The spectral analysis of nitro-α-celluloses of various ages confirms the fact that the number of nitro groups is highest in those that are 1 year old. The 100 years old ones contain about the same amount.Considerably less is contained in interglacial cellulose.The α-cellulose produced from pine wood of

Card 2/3

The Properties of α-Cellulose Obtained from Thousand Years Old Fossil Pine Wood. 20-1-31/54

of various age is on aging subjected to dehydation analogous to the terpenes and resinous acids.
(4 illustrations, 2 tables, 1o Slavic references)

ASSOCIATION Institut khimii Akademii nauk BSSR
PRESENTED BY ARBUZOV B.A., Member of the Academy, January 28, 1957
SUBMITTED 13.1.1957
AVAILABLE Library of Congress.
Card 3/3

ZHBANKOV, R. G. Cand Phys-Math Sci -- (diss) "Infrared spectra of fibers of cellulose [redacted] and its derivatives." Minsk, 1958. 17 pp (Belorussian State Univ im V. I. Lenin), 100 copies (KL, 14-58, 109)

YERMOLENKO, I.N.; ZHBANKOV, R.G.

Studying the dyeing of oxidized cellulose by infrared spectroscopy. Inzh.-fiz.zhur. no.2:94-98 F '58. (MIRA 13:1)

1. Institut fiziki i matematiki AN BSSR, Belorusskiy gosudarstvennyy universitet, Minsk.
(Dyes and dyeing--Cellulose) (Spectrum, Infrared)

Zhbankov R.G.

62-2-27/28

AUTHORS: Yermolenko, I. N., Zhbankov, R. G., Ivanov, V. I., Lenshina, N. Ya., Ivanova, V. S.,

TITLE: The Investigation of Some Oxidation Reactions of Cellulose by the Method of Infrared Spectroscopy (Issledovaniye nekotorykh okislitel'nykh reaktsiy tsellyulozy metodom infrakrasnoy spektroskopii)

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1958, Nr 2, pp. 249-251 (USSR)

ABSTRACT: In the present paper the authors use the hitherto known methods and investigation results in the field of adsorption spectroscopy for the purpose of finding out the directions of reaction with subsequent formation of functional groups in the complicated structure of the respective oxidation products of cellulose. The modifications in the infrared spectra connected with the formation of carboxyl- and carboxyl-groups have hitherto been determined. The presence of carboxyl groups was judged according to the adsorption band at 5,57μ (oscillation C=O). This method is, however, not reliable. It is well-known that the adsorption band at 7μ depends exclusively on the velocity of de-

Card 1/2

The Investigation of Some Oxidation Reactions of Cellulose by the Method of Infrared Spectroscopy 62-2-27/28

formation of the CH_2-groups. Consequently the oxidation-transformation of the carbon atom can be estimated according to the modification of the intensity of adsorption (according to the wave length). Monocarboxyl cellulose contains so-called loss-carboxyls. The band at 11μ is not connected with carboxyl groups. The authors also investigated the oxidation of C_6 with the action of N_2O_4 in the elementary member of the macromolecule of cellulose in dependence on the general accumulation of carboxyls (see figure 4). The adsorption band at 11μ characterizes the occurrence of aldehyde-groups in dialdehyde cellulose in a bound form. There are 4 figures, and 10 references, 6 of which are Slavic.

ASSOCIATION: Institute for Organic Chemistry imeni N.D. Zelinskiy AN USSR (Institut organicheskoy khimii im. N.D. Zelinskogo Akademii nauk SSSR)

SUBMITTED: March 7, 1957

AVAILABLE: Library of Congress

Card 2/2

1. Cellulose-Oxidation reduction reactions 2. Infrared spectroscopy-Applications

51-4-3-6/30

AUTHOR: Zhbankov, R.G.

TITLE: Infrared Spectra of Cellulose Fibres. (Infrakrasnyye spektry volokon tsellyulozy.)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol.IV, Nr.3, pp.318-327 (USSR)

ABSTRACT: The present paper reports measurements of the infrared spectra of various cellulose fibres, supplied by V.I. Ivanov, I.N. Yermolenko, A.I. Skrygan and A.Ya. Rozenberg, in the spectral region from 2 to 15 μ. The author followed the technique described by himself in Ref.11. He used films of cellulose prepared by powdering of fibres and compressing them by high pressure. The infrared absorption spectra were obtained using an infrared IKS-11 spectrometer with a rock-salt prism. Fig.1 gives the infrared spectra of natural cellulose (curve 1), nitrocellulose (2) and nitrooxycellulose (3). Fig.2 gives the infrared spectra of oxidized celluloses and of non-oxidized cellulose (curve 2). Figs.3,4 and 6 give the infrared spectra of monocarboxylcellulose. Fig.5 gives the infrared absorption by salts of dicarboxylcellulose. Fig.7 gives the infrared absorption

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51-4-3-6/30

Infrared Spectra of Cellulose Fibres.

by dialdehydecellulose. Fig.8 gives the infrared absorption by dicarboxylcellulose. Fig.9 gives the infrared absorption spectra of natural (curve 1) and mercerized (2) cellulose. Fig.10 gives the changes in the infrared absorption of monocarboxylcellulose on formation of its salts. A detailed discussion of the results obtained is given and characteristic frequencies of fundamental bonds and groups in cellulose and its derivatives are found. The author thanks B.I. Stepanov for his advice and direction of the present work, and N.I. Yermolenko for his criticisms. There are 10 figures and 28 references, of which 13 are Soviet, 9 American, 2 English, 1 German, 1 Czech, 1 a translation of a Western work into Russian and one other.

ASSOCIATION: Belorussian State University imeni V.I. Lenin (Belorusskiy gosudarstvennyy universitet im. V.I. Lenina)

SUBMITTED: June 4, 1957.

Card 2/2

1. Cellulose—Infrared spectra 2. Infrared spectroscopy—Applications

5(4), 5(3) SOV/62-58-12-19/22

AUTHORS: Yermolenko, I. N., Zhbankov, R. G., Lenshina, N. Ya., Ivanova, V. S., Ivanov, V. I.

TITLE: Spectroscopic Investigation of the Consumption of Hydroxyl Groups of Cellulose on the Action of Nitrogen Dioxide (Spektroskopicheskoye issledovaniye raskhoda gidroksil'nykh grupp tsellyulozy pri deystvii na neye dvuokisi azota)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1958, Nr 12, pp 1495-1496 (USSR)

ABSTRACT: In this brief report the authors mention the transformations of hydroxyl groups of cellulose in their oxidation by means of nitrogen vapors. Cotton cellulose was oxidized under static conditions (Ref 5). The change of the hydroxyl groups during the course of reaction was determined according to the spectroscopic method in the infrared range. The absorption spectra were taken according to the earlier described method (Ref 6) by means of the infrared spectrograph IKS-11 with an NaCl prism. It was found that the reaction takes a quasihomogeneous course. In the first stage mainly those products are accumulated which form due to the oxidation of primary hydroxyl groups and

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SOV/62-58-12-19/22

Spectroscopic Investigation of the Consumption of Hydroxyl Groups of Cellulose on the Action of Nitrogen Dioxide

in the second stage those products that form due to the oxidation of primary and secondary hydroxyl groups. The results obtained agree with the other papers (Refs 1,4).
There are 2 figures and 7 references, 6 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii imeni N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy Academy of Sciences, USSR) Institut fiziki i matematiki Akademii nauk BSSR (Institute of Physics and Mathematics, Academy of Sciences, Belorussian SSR)

SUBMITTED: June 2, 1958

Card 2/2

SOV-69-58-4-6/18

AUTHORS: Yermolenko, I.N., Zhbankov, R.G.

TITLE: Spectroscopic Study of the Sorption of Metallic Cations by Oxidized Cellulose (Spektroskopicheskoye issledovaniye sorbtsii kationov metallov okislennymi tsellyulozami)

PERIODICAL: Kolloidnyy zhurnal, 1958, Vol XX, Nr 4, pp 429-435 (USSR)

ABSTRACT: Cellulose products contain variable quantities of cations which influence the viscosity, resistance, electric insulation properties, thermal stability, etc. of the material. The sorption of cations by cellulose is therefore of great importance. In the article, the interaction of oxidized cellulose with diluted salt solutions containing a mixture of cations is investigated, as well as the differences in the sorption on carboxyls located at various positions in the macromolecule chain. The sorption of cations under industrial conditions takes place usually from solutions formed at contact with details of the apparatus (Cu, Fe), from the water of the water main (Ca, Fe), etc. The content of carboxyl groups was determined by the calcium acetate method, of aldehydes by the iodometric method, and of carbonyl groups by the hydroxylamine method. The absorption spectra were taken by an infra-red recording spectrometer IKS-II. In Figure 1, the spectra of

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a specimen of dicarboxyl cellulose (Curve 1) and of oxidized cellulose (Curve 2) treated with a 0.001 N solution of calcium acetate are represented. The sorption from this diluted solution is very active. For investigating the influence of the cation, concentration sorption of uranyl cations from uranyl nitrate solutions of various concentrations by dicarboxyl cellulose was carried out. Figure 2 shows that considerable changes of the solution concentration affect only slightly the degree of sorption which indicates a high sorption energy. In the field of 7-8 μ in the cellulose spectrum, absorption lines are located at 1,360, 1,340, and 1,325 cm^{-1} corresponding to primary hydroxyls and decreasing in value during oxidation of the cellulose. In Figure 3, the absorption spectra of unoxidized cellulose are represented as well as those of monocarboxyl cellulose containing 12 % COOH, and of oxidized cellulose treated with Ag^{+}, Ca^{2+}, Pb^{2+}, and UO_2^{2+}. During cation sorption, a considerable increase of the absorption value in the given field of the spectrum is observed. The absorption spectrum for dialdehyde cellulose containing 12 % CHO is given in Figure 4. There are no considerable changes in this field

SOV-69-58-4-6/18

Spectroscopic Study of the Sorption of Metallic Cations by Oxidized Cellulose

of the spectrum. A comparison between the Figures 3 and 5 shows that for the sorption of lead and calcium on dicarboxyl cellulose greater differences are observed in the absorption field of the carboxylate groups (1,400-1,350 cm^{-1}) than in the sorption of these cations on monocarboxyl cellulose. There are 6 diagrams and 30 references, 6 of which are Soviet, 17 English, 3 Finnish, 2 German, 1 French, and 1 Hungarian.

ASSOCIATIONS: Institut fiziki i matematiki AN BSSR (Institute of Physics and Mathematics of the Belorussian SSR Academy of Sciences) Belorusskiy gosudarstvennyy universitet (Belorussian State University)

SUBMITTED: December 20, 1957

1. Cellulose--Absorptive properties 2. Cellulose--Spectrographic analysis 3. Metal ions--Spectrographic analysis

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65996

24.7700

SOV/81-59-8-26302

Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 8, p 36 (USSR)

AUTHORS: Shapiro, I.P., Zhbankov, R.G.

TITLE: The Problem of the Effect of Tallium on the Electrical Properties of Selenium

PERIODICAL: Uch. zap. Belorussk. un-t, 1958, Nr 41, pp 189 - 194

ABSTRACT: Results have been obtained showing that the Tl atoms diffuse intensively into Se, in which case the diffusion rate increases with the temperature. The intensive diffusion process of Tl into Se can be explained by the fact that the constant of the Se lattice is large in comparison with the size of the Tl atoms. From the experimental data it follows that at low concentrations of Tl atoms in Se a sharp decrease in the electric conductivity of Se takes place. This phenomenon can be explained by assuming that the Tl atoms in Se generate additional donor levels, which leads to the compensation of the action of acceptor levels. At a further increase in the concentration of the Tl atoms the number of donor levels increases, which can lead to an increase in the conductivity which becomes an electronic conductivity in

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SOV/81-59-8-26302

The Problem of the Effect of Tallium on the Electrical Properties of Selenium

this case. Together with the change in the electric conductivity of Se in the diffusion of Tl atoms a rectifying effect is observed. It is evident that this is connected with the change in the character of the Se conductivity in a thin layer which leads to the arising of the electron-hole transition.

Authors' summary

Card 2/2

24(7),24(0)

AUTHOR: Stepanov, B. I., Academician AS Belorusskaya SSR — SOV/50-59-1-9/57

TITLE: Investigations by Belorussian Scientists in the Field of Spectroscopy and Luminescence (Raboty belorusskikh uchenykh po spektroskopii i lyuminestsentsii)

PERIODICAL: Vestnik Akademii nauk SSSR, 1959, Nr 1, pp 68-76 (USSR)

ABSTRACT: These investigations are being carried out at the Institut fiziki i matematiki (Institute of Physics and Mathematics) and the fizicheskiy fakul'tet Belorusskogo universiteta (Physics Department, Belorussian University) under the direction of B. I. Stepanov, A. N. Sevchenko, M. A. Yel'yashevich, Academicians AS BSSR, and F. I. Fedorov, Corresponding Member, Academy of Sciences, USSR. In the field of theoretical spectroscopy, the investigations by P. A. Apanasevich, B. I. Stepanov are mentioned. Further, the following investigations are indicated:

B. I. Stepanov, Ya. N. Khrapkovskaya used the general principles of spectroscopy of negative carrents in their examinations.

On the basis of experimental data A. M. Samson obtained important results in the determination of genuine values of optical characteristics of the substance examined.

L. A. Kravtsov, E. P. Trancy examined calculation methods of reabsorption with large overlapping of absorption and luminescence spectra.

V. A. Bartsevich succeeded in obtaining fundamental results in the examination of luminescence of alkalinide vapors. He also showed that the efficiency of quenching collisions may be much less than one.

L. S. Sikalik, under the direction of A. N. Sevchenko, examines the influence of the solvent on the yield of fluorescence as well as the absorption and emission spectra.

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A. N. Sevchenko, G. P. Gurinovich, A. M. Saratovskiy examined the luminescence polarization of many alkalized molecules. At the same time they designed an improved apparatus.

A. N. Sevchenko, V. V. Knyazevya work in the field of luminescence of rare-earths complexes.

V. A. Filipovich examined the phenomena of phosphorescence. The examinations of optical properties of chlorophyll and related compounds are being carried out in close cooperation with the Institut biologii Akademii nauk BSSR (Institute of Biology, Academy of Sciences, Belorusskaya SSR).

P. F. Gedzev, L. A. Kravtsov, E. V. Yefremova examined the absorption and luminescence spectra of a live leaf.

A. N. Sevchenko, G. P. Gurinovich, K. N. Solov'yev, L. A. Kravtsov examined polarization spectra and the dependence of polarization on the wave length of fluorescence.

A. N. Sevchenko, K. V. Volod'ko obtained valuable data of the composition of complex compounds and the nature of intermolecular forces of interaction.

I. P. Shapiro examined the optical and electrical properties of some crystal phosphors.

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A. N. Sevchenko, B. I. Stepanov examined cellulose and its products of transformation.

R. G. Zhbankov, I. N. Yermolenko worked at high pressure in order to study the composition of cellulose by means of spectroscopical methods.

I. N. Yermolenko, R. G. Zhbankov examined the oxidising kinetics of cellulose by means of nitrogen dioxide, iodic acid and chloride.

R. G. Zhbankov, B. I. Stepanov, A. Ya. Bazhbakov, A. I. Skrygan, A. M. Shishko examined the mercerizing process of cellulose.

M. M. Pavlyuchenko, I. N. Yermolenko examined the oxidation of cellulose with the use of absorption spectroscopy in the ultraviolet range.

M. M. Pavlyuchenko and collaborators spectrophotometrically examined the absorption of coloring substances on cellulose.

I. N. Yermolenko, N. K. Gavrilov examined the luminescence of cellulose products.

B. I. Stepanov, Ya. I. Chekalinskaya determined the dependence of the spectra of dispersed objects on the reduction ratio, the character of the binding agent, and the layer thickness.

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SOV/48-23-10-19/39

7(3), 5(4), 24(7)

AUTHORS: Stepanov, B. I., Zhbankov, R. G., Yermolenko, I. N.

TITLE: Infrared Spectra of Cellulose and of Its Derivatives

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959
Vol 23, Nr 10, pp 1222-1223 (USSR)

ABSTRACT: It is pointed out in the introduction that cellulose as a fiber could be investigated only inadequately, because light dispersion presents a considerable obstacle in infrared spectroscopic investigations. Attempts made to avoid this obstacle by dissolving the fiber, or by embedding it in an immersion medium, or even by regenerating cellulose to cellophane gave entirely unsatisfactory results which did not show the true cellulose spectrum. Thus, the authors endeavored to press cellulose fibers without any addition, and they investigated the spectrum of these pressed cellulose samples within the range of from 2.5 to 15μ. In the spectra of native celluloses bands were found in the following ranges: 3330, 2940, 1650, 1428, 1360, 1340, 1325, 1290, 1225, 1190, 1150÷910 and 705 cm^{-1}. The former is to be attributed to the OH-valence vibrations. In the spectra of oxidized celluloses an intense

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SOV/48-23-10-19/39

Infrared Spectra of Cellulose and of Its Derivatives

band was found at 1740 cm^{-1} (C=O). An increase of the degree of oxidation attenuated the intensity of the bands 1430, 1360, 1340, and 1325 cm^{-1} and increased the intensity of the band in the range of 1280-1160 cm^{-1}. Further details are discussed in this connection. A nitration resulted in the occurrence of the bands 1290, 1390, and 1200 cm^{-1}. The spectrum of dialdehyde cellulose was characterized by absorption in the range of 900 cm^{-1}. A cellulose with many carboxyl groups showed a weak band at 955 cm^{-1}, mercerized cellulose showed increased absorption in the range of 910 cm^{-1}, etc. In conclusion, the great importance of cellulose infrared spectroscopy is pointed out.

ASSOCIATION: Institut fiziki i matematiki Akademii nauk BSSR (Institute of Physics and Mathematics of the Academy of Sciences of the Belorussian SSR)

Card 2/2

5(4) SOV/76-33-6-5/44

AUTHORS: Yermolenko, I. N., Zhbankov, R. G.

TITLE: Investigation of the Cation Exchange on Oxidized Cellulose by the Method of Infrared Spectroscopy (Izucheniye kationoobmena na okislennykh tsellyulozakh metodom infrakrasnoy spektroskopii)

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 6, pp 1191-1197 (USSR)

ABSTRACT: The exchange of hydrogen of the carboxyl group of oxidized cellulose with the cations Li, Be, Na, Mg, Al, Ca, Cr, Mn, Fe, Co, Ni, Cu, Ag, Cd, Cs, Ba, Pb, UO_2, NH_4, is investigated by the aid of infrared spectroscopy. Cellulose samples, prepared at the Institut organicheskoy khimii AN SSSR (Institute of Organic Chemistry of the AS USSR) by Professor V. I. Ivanov, were utilized among other materials. The absorption spectra of the products were obtained with an IKS-11 spectrometer. It was found that the displacement of the C=O absorption band of the carboxyl groups in the case of sorption of the cations on the oxidized cellulose (in consequence of the above mentioned exchange and of the formation of corresponding salts of the oxidized cellulose) does not depend on the carboxyl group content; however, it increases proportionally with the cation mass. The presence of carbonyl groups does not exercise any influence on

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Investigation of the Cation Exchange on Oxidized Cellulose by the Method of Infrared Spectroscopy SOV/76-33-6-5/44

this effect. In the course of ion exchange an increase is observed in the intensity of the displaced C=O band of the carboxyl group, in which connection the band of wavelength 5.75μ becomes weaker. The share of cations in the exchange equilibrium in the polymer phase depends on the character of the cation, the composition of the altered cellulose, the concentration, and the pH of the solution. A quantitative determination of the carboxyl groups in oxidized cellulose, based only on the magnitude of absorption in the wavelength range of 5.8μ is found to be unreliable. Finally, gratitude is expressed to Professor B. I. Stepanov and Professor V. I. Ivanov. There are 8 figures and 26 references, 11 of which are Soviet.

ASSOCIATION: Akademiya nauk BSSR Institut fiziki i matematiki. Belorusskiy gosudarstvennyy universitet (Academy of Sciences Belorussiya, Institute of Physics and Mathematics. Belorussian State University)

SUBMITTED: April 12, 1957

Card 2/2

SOV/76-33-9-2/37

5(4)

AUTHORS: Stepanov, B. I., Zhbankov, R. G., Rozenberg, A. Ya.

TITLE: Infrared Spectra of Cellulose in the Viscose-production Process

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 9, pp 1907-1913 (USSR)

ABSTRACT: The infrared spectra (IS) of the sulfite-, alkaline- and hydrate-cellulose were investigated within the wave-range 2.5-13μ during various stages of the technological process of viscose-production. By applying a special methodology (Ref 3), the investigations (as distinct from others of this type (Ref 2)), could be carried out without an immersion medium. A spectrometer of the type IKS-11, an amplifier of the type FEOU-12 and an optical indicator of the type IZV-1 were used. It was observed that after a treatment of the cellulose (C) with concentrated lye, a considerable reduction in the intensity of the spectral bands of the deformation-oscillations in the CH_2-group takes place, i.e. the mercerized (C) is of different structure than the initial product. The latter is also confirmed by a strong increase of the absorption in the wave-range 910 cm^{-1}. It was established, however, that this cannot

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SOV/76-33-9-2/37

Infrared Spectra of Cellulose in the Viscose-production Process

be traced to an accumulation of aldehyde groups through oxidation with atmospheric oxygen, or a hydrolysis during the washing out of the lye. A reduction of the intensity of the spectral band of the hydroxyls (3333 cm^{-1}), which was observed in the (S) of dried alkaline-(C) samples, permits the assumption that under the given circumstances, a formation of the cellulose alcoholate is not impossible. Practically all primary hydroxyl groups of the (C) react with the lye already during the mercerizing, so that the penetration of the lye into the basic mass of the (C) can be assumed. The papers by V. N. Nikitin (Ref 1) are mentioned in the text. There are 5 figures and 11 references, 9 of which are Soviet.

ASSOCIATION: Belorusskiy gosudarstvennyy universitet, Minsk (Belorussian State University, Minsk), Zavod iskusstvennogo volokna, Mogilev (Factory for Synthetic Fibres, Mogilev)

SUBMITTED: July 10, 1957

Card 2/2

ZHBANKOV, R.G.; ZUYEVA, R.V.; KOZLOV, P.V.; SAVEL'YEVA, L.V.

Molecular interactions in polymers. Part 1: Application of infrared spectroscopy to the study of acetylcellulose fibers. Vysokom. soed. 2 no.8:1270-1279 Ag '60. (MIRA 13:9)

1. Institut fiziki AN BSSR i Nauchno-issledovatel'skiy kinofotoinstitut.

(Cellulose--Spectra)

YERMOLENKO, I.N. [IArmolenka, I.M.]; ZHBANKOV, R.G. [Zhbankou, R.H.]; ROZENBERG, A.Ya.

Effect of pH on the sorption of iron from solutions by cellulose preparations which replace the carboxyl groups. Vestsi AN BSSR. Ser.fiz.-tekh.nav. no.3:25-28 '60. (MIRA 13:9)
(Iron) (Cellulose) (Sorption)

ZHBANKOV, Rostislav Georgiyevich; STEPANOV, B.I., akademik, red.

[Infrared spectra of cellulose and its derivatives] Infrakrasnye spektry tselliulozy i ee proizvodnykh. Minsk, Nauka i tekhnika, 1964. 338 p. (MIRA 18:2)

1. Akademiya nauk Belorusskoy SSR (for Stepanov).

PRIMA, A.M.; ZHBANKOV, R.G.; MARUPOV, R.

Study of the characteristics of infrared spectra of mono-and disaccharides. Zhur. strukt. khim. 5 no.6:845-852 N-D '64. (MIRA 18:4)

1. Institut fiziki AN BSSR.

ZHBANKOV, R.G. [Zhbankou, R.H.]; GARBUZ, N.I. [Harbuz, M.I.]; SKRIGAN, A.I. [Skryhan, A.I.]; SHISHKO, A.M. [Shyshko, A.M.]

Infrared spectra of celluloses of different origin and age. Part 3. Cellulose from pulp of different age. Vestsi AN BSSR. Ser.fiz.-mat. nav. no.2:95-98 '65. (MIRA 19:1)

L 18394-66 EWT(m)/EWP(j)/T WW/RM (A)

ACC NR: AP6003408 SOURCE CODE: UR/0190/66/008/001/0020/0025

AUTHORS: Garbuz, N. I.; Zhbankov, R. G.; Korotkova, A. Ya.; Kryazhev, Yu. G.; Rogovin, Z. A.

ORG: Institute of Physics, AN BSSR (Institut fiziki AN BSSR); Moscow Textile Institute (Moskovskiy tekstil'nyy institut)

45
B

TITLE: Study of carbonyl-substituted cellulose graft copolymers by means of IR spectroscopy (189th report in series "Investigation of Structure and Properties of Cellulose and Its Derivatives")

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 1, 1966, 20-25

TOPIC TAGS: graft copolymer, cellulose plastic, IR spectroscopy / IK-10 IR spectrophotometer

ABSTRACT: IR spectra of carbonyl-substituted graft copolymers of cellulose and polymethylvinylketone (I), of polymethacrolein (II), and of poly-2-methyl-5-vinyl-N-ethanalpyridinium chloride have been investigated. Preparation of the graft copolymers has been described earlier by A. Ya. Korotkova and Z. A. Rogovin (Vysokomolek. soyed., 7, 1571, 1965); and by A. Ya. Korotkova, Yu. G.

Card 1/2 UDC: 661.728.89+678.01:53

L 18394-66
ACC NR: AP6003408

Kryazhev, and Z. A. Rogovin (Vysokomolek. soyed., 6, 1980, 1964). The spectra were obtained on a double beam spectrophotometer IK-10 in the regions 2600--3800 cm^{-1} (LiF prism), 700--1800 cm^{-1} (NaCl prism), and 400--700 cm^{-1} (KBr prism). Carbonyl absorptions in these regions (typical for the investigated graft copolymers and homopolymers) are described and discussed. Mechanisms of methylvinylketone and methacrolein polymerization during the formation of graft polymers of cellulose with (I) and (II) have been investigated. Orig. art. has: 1 table, 5 figures, and 4 structures.

SUB CODE: 07/ SUBM DATE: 04Feb65/ ORIG REF: 006/ OTH REF: 003

Card 2/2 mc

ZHBANKOV, R.G.; KOMAR, V.P.; RODIONOVA, M.I.; KOZLOV, P.V.

Peculiar features of the infrared spectra of cellulose esters in the crystalline state. Vysokom. soed. 8 no. 1:157-162 Ja '66 (MIRA 19:1)

1. Fizicheskiy institut AN BSSR i Moskovskiy gosudarstvennyy universitet imeni Lomonosova. Submitted March 6, 1965.

ZHBANKOV, R.G. [Zhbankou, R.H.]; GARBUZ, N.I. [Harbuz, H.I.]; SHYSHKO, A.M. [Shyshko, A.M.]; SKRIGAN, A.I. [Skryhan, A.I.]; BUGAYENOK, A.A. [Buhaionak, A.A.]

Infrared spectra of celluloses of different origin and age. Vestsi AN BSSR. Ser. fiz.-tekh. nav. no.4:43-47 '64. (MIRA 18:3)

BALABAYEVA, M.D.; VLADIMIROVA, T.V.; GAL'BRAYKH, L.S.; ZHERNKOV, R.G.; ROGOVIN, Z.A.

Infrared spectroscopic study of the ion exchange of graft copolymers of cellulose and polyacrylhydroxamic acid with Fe^{+3} and Cu^{+2} ions. Vysokom. soed. 7 no.2:205-210 F '65. (MIRA 18:3)

1. Moskovskiy tekstil'nyy institut.

SKRIGAN, A.I. [Skryhan, A.I.]; SHISHKO, A.M. [Shyshko, A.M.];
ZHBANKOV, R.G. [Zhbankou, R.H.]

Action of caustic soda on cellulose. Vestsi AN BSSR. Ser. fiz.-tekh. nav. no.4:61-67 '62. (MIRA 18:4)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002064610015-6"

GULINA, A.A.; MARUPOV, R.; ZHBANKOV, R.G.; KRYAZHEV, Yu.G.; ROGOVIN, Z.A.

Study of the structure of cellulose-polystyrene copolymer by infrared spectroscopy. Vysokom. soed. 6 no.11:1997-2001 N '64 (MIRA 18:2)

1. Moskovskiy tekstil'nyy institut i Institut fiziki AN BSSR.

ACCESSION NR: AT4017416 S/0000/63/000/000/0150/0156

AUTHOR: Marupov, R.; Zhbankov, R. G.; Kryazhev, Yu. G.; Rogovin, Z. A.

TITLE: Infrared spectroscopic study of the structure of grafted copolymers of cellulose with poly-2-methyl-5-vinylpyridine

SOURCE: Tsellyuloza i yeye proizvodny*ye, sbornik statey (Cellulose and its derivatives). Moscow, 1963, 150-156

TOPIC TAGS: cellulose, cellulose copolymer, grafted copolymer, spectroscopy, infrared spectrum, poly-2-methyl-5-vinylpyridine

ABSTRACT: The authors compared the infrared spectra of cotton cellulose, 4-β-hydroxyethylsulfony-2-aminoanisole, cellulose alkylated with 4-β-hydroxyethylsulfonyl-2-aminoanisole, a homopolymer of 2-methyl-5-vinylpyridine and a series of grafted copolymers of the latter and cellulose in the 2600-3800 cm^{-1} (LiF), 700-2000 cm^{-1} (NaCl) and 400-700 cm^{-1} (KBr) bands. The copolymers were prepared by chain substitution and by the formulation of a macroradical via the dissociation of diazo groups presubstituted on a cellulose macromolecule. The infrared spectra were found to depend on the method of preparation and corroborated the existence of a chemical bond between the cellulose and the poly-2-methyl-5-vinylpyridine in

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ACCESSION NR: AT4017416

their copolymers. Orig. art. has: 6 graphs and 1 table.

ASSOCIATION: Institut fiziki AN BSSR (Institute of Physics, AN BSSR); Moskovskiy tekstil'nyy institut (Moscow Textile Institute)

SUBMITTED: 21Jan63 DATE ACQ: 06Jan64 ENCL: 00

SUB CODE: OC, MT NO REF SOV: 006 OTHER: 005

Card 2/2

ZHBANKOV, R.G. [Zhbankou, R.H.]; MARUPOV, R. [Marupau, R.]; GARBUZ, N.I. [Harbuz, N.I.]; SKRIGAN, A.I. [Skrihan, A.I.]; SHISHKO, A.M. [Shyshko, A.M.]

Infrared spectra of celluloses of different origin and age. Part 1. Annuals. Vestsi AN BSSR. Ser. fiz.-tekh. nav. no.4: 65-70 '63. (MIRA 17:12)

ZHBANKOV, R.G.

Methods of obtaining infrared spectra of fibrous materials; a survey.
Zav.lab. 29 no.12:1438-1441 '63. (MIRA 17:1)

ZHBANKOV, R.G.; MARUPOV, R.; U MEY-YAN'; TYUGANOVA, M.A.; ROGOVIN, Z.A.

Structure of cellulose esters with phosphorus-containing acids studied by infrared spectroscopy. Vysokom.soed. 5 no.9:1292-1296 S '63. (MIRA 17:1)

1. Institut fiziki AN BSSR i Moskovskiy tekstil'nyy institut.

ZHBANKOV, R.G. [Zhbankou, R.H.]; MARUPOV, R. [Marupau, R.]; BALAMERKOVA, M.D.; TYUGANOVA, M.A. [Tsiuhanava, M.A.]; LISHEVSKAYA, M.O. [Lishevskaia, M.A.]

Studying the structure of new technically valuable cellulose derivatives by methods of infrared spectroscopy. Vestsi AN BSSR. Ser. Fiz.-tekh. nav. no.2:38-41 '63. (MIRA 17:1)

STEPANOV, B.I.; ZHBANKOV, R.G.

Use of infrared spectroscopy for studying cellulose. Zav. lab. 29 no.6:696-699 '63. (MIRA 16:6)

(Cellulose—Absorption spectra)

STEPANOV, B.I.; JBANKOV, R.G. [Zhbankov, R.G.]; MARUPOV, R.

Structure of cellulose hydrate. Analele chimie 17 no.2: 34-41 Ap-Je '62.

ZHBANKOV, R.G.; IVANOVA, N.V.; ROZENBURG, A.Ya.

Infrared spectra of cellulose in aqueous alkaline solutions. Zav. lab. 28 no.11:1324-1326 '62. (MIRA 15:11)

1. Institut fiziki AN Belorusskoy SSR.
(Cellulose--Spectra)

S/250/62/006/009/004/004
I046/I246

AUTHORS: Zhbankov, R. G., Krivosheyev, N. P., and Reutovich, G. V.

TITLE: Infrared spectroscopy in investigations of synthetic blood substitutes

PERIODICAL: Akademiya nauk BSSR. Doklady, v. 6, no. 9, 1962, 592–594

TEXT: The new method of infrared spectroscopy for water-soluble plasma substitutes detects fine structural changes in synthetic blood-substituting polymers. A thin ~ 3–5 μ layer of the solution to be analyzed is applied directly onto a KRS-5 plate with a sufficiently wide transmission band. Spectra of polyglucine films (a glucose polymer with M = 6000 obtained by hydrolysing and fractionating native dextrine, a by-product of life processes of the microbe *Lenconostoc mesenterondes*, under certain conditions) show definite regular changes with addition of salts into the solution; the changes are independent of the salt added (the 870, 950, 1240 and 1420 cm^{-1} bands increase in intensity and the 850 cm^{-1} band grows weaker when NaCl, KCl, or KBr is added) and have nothing in common with the spectral features of the salts in question. The changes in the infrared spectra are thus associated with changes in the macromolecules of blood substitute, and give definite indication of alterations in the toxic properties of the substitute. There are 2 figures.

PRESENTED: by B. I. Stepanov, Academician, AS BSSR

SUBMITTED: December 23, 1961

Card 1/1

STEPANOV, B.I.; ZHBANKOV, R.G.; MARUPOV, R.

Structure of cellulose hydrate. Vysokom.soed. 3 no.11:1633-1640 N '61. (MIRA 14:11)

1. Institut fiziki AN SSSR.
(Cellulose)

SKRIGAN, A.I.; SHISHKO, A.M.; ZHBANKOV, R.G.

Composition of cellulose extracted from the wood of swamp pine stumps. Sbor. nauch. rab. Inst. fiz.-org. khim. AN BSSR no. 7:110-125 '59. (MIRA 14:4)

(Cellulose)

BALABAYEVA, M.D.; SHARKOVA, Ye.F.; ZHBANKOV, R.G.; VIRNIK, A.D.; ROGOVIN, Z.A.

Infrared spectroscopy method of studying the structure of some graft copolymers of cellulose. Vysokom.soed. 7 no.10:1763-1766 O '65. (MIRA 18:11)

1. Moskovskiy tekstil'nyy institut.

ZHBANKOVA, Inessa Ivanovna; SAMUSKEVICH, A.V., kand. fil. nauk, red.; VOL'SKAYA, G., red.

[Development in inorganic nature] O razvitii v neorganicheskoi prirode. Minsk, Nauka, i tekhnika, 1964. 150 p. (MIRA 18:1)

SVETLOVA, A.K.; KONSTANTINOVA, N.P.; LENSKAYA, N.A.; ZHBANKOVA, N.S.

Sinobronchitis and sinopneumopathies in infants. Pediatriia 41 no.9:19-24 S '62. (MIRA 15:12)

1. Iz kafedry detskikh bolezney (zav. - deystvitel'nyy chlen AMN SSSR prof. Yu.F.Dombrovskaya) i kafedry bolezney ukha, gorla i nosa (zav. - zasluzhennyy deyatel' nauki prof. A.G. Likhachev) I Moskovskogo ordena Lenina meditsinskogo instituta imeni Sechenova.

(SINUSITIS) (BRONCHITIS) (PNEUMONIA)

STEPANOV, B.I., akad.; SKLIAR, A.I.; SHISHKO, A.N.; MIRANKOV, R.G.

Bonding between cellulose and substances associated with it in plant tissue. Dokl. AN SSSR 135 no.3:624-626 N '60. (MIRA 13:12)

1. Institut fiziki Akademii nauk BSSR i Institut fiziko-organicheskoy khimii Akademii nauk BSSR. 2. Akademiya nauk BSSR (for Stepanov).
(Cellulose)

SOV/124-57-4-4496

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 4, p 91 (USSR)

AUTHORS: Nikolayev, P. A., Zhbannikov, P. S.

TITLE: Electroosmotic Phenomena in Ground Water as a Function of Its Composition (Elektroosmoticheskiye yavleniya v gruntovykh vodakh v zavisimosti ot ikh sostava)

PERIODICAL: Tr. Kuybyshevsk. inzh.-stroit. in-t, 1956, Nr 3, pp 173-177

ABSTRACT: The effect of the salts NaCl, $MgCl_2$, $NaHCO_3$, Na_2SO_4, and $MgSO_4$ on the electroosmotic phenomena in sandy soils was investigated. Measurements were carried out in a U-shaped tube partially filled with soil. A constant potential of 120 volts was maintained between the electrodes immersed in an electrolyte. The article does not give any values for the potential of the electric field and the current density in the soil, nor does it provide any data on the distribution of the potential between the soil and the electrolyte. The intensity of the electroosmosis was evaluated from the change in the water level in the tube under the action of a direct current. The electroosmotic effect was most pronounced in NaCl solutions. Some relationship was observed to exist between the above effect and the concentration of the salts. Bibliography: 6 references.

A. V. N.

Card 1/1

ZHBANNIKOVA, G. T.

68-12-19/25

AUTHOR: Kriger, I.Ya.

TITLE: On the Paper by I.G. Antypko and G.T. Zhbannikova "On the Coke Oven Gas Temperature After Initial Condensing (K stat'ye I.G. Antypko i G.T. Zhbannikovoy "O temperaturakh koksovogo gaza posle pervichnykh gazovykh kholodil'nikov")

PERIODICAL: Koks i Khimiya, 1957, No.12, p. 45 (USSR).

ABSTRACT: The author disagrees with the original authors that some hydrogen sulphide is lost with the condensate from primary condensers, as during the removal of ammonia, it is returned to gas. The original paper was published in Koks i Khimiya, 1957, No.2.

ASSOCIATION: Krivoy Rog Coke-chemical Plant (Krivorozhskiy koksokhimicheskiy zavod)

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EL'MAN, A.; PIKHOVKIN, F., ekonomist; POLYANSKIY, M.; ANTONENKO, Ye. (Rostov-na-Donu); ZHBANNIKOVA, T., tekhnik (Chkalovsk, Gor'kovskoy obl.); PANFILOVA, V., tekhnik (Chkalovsk, Gor'kovskoy obl.); GOLOVANOV, A.

We discuss O. Gabarov's letter entitled "We must not work this way any longer". Zhil.-kom.khoz. 12 no.8:10-11 Ag '62. (MIRA 16:2)

1. Nachal'nik zhilishchno-kommunal'nogo otdela g. Kolpino, Leningradskoy obl. (for El'man). 2. Zhilishchno-kommunal'naya kontora tresta "Krasnodarstroy", Krasnodar (for Pikhovkin). 3. Glavnyy inzh. filiala Moskovskogo oblastnogo proyektnogo instituta, g. Klin, Moskovskoy obl. (for Polyanskiy). 4. Nachal'nik zhilishchno-kommunal'noy kontory Khabarovskogo soveta narodnogo khozyaystva (for Golovanov).

(Housing management)

ZHBANOV, A.Ye.

Problems of practical application in the physics curriculum for the 8th to 10th years of secondary schools. Fiz.v shkole 14 no.2: 22-27 Mr-Ap '54. (MLRA 7:2)

1. Gorod Minusinsk, 3-ya srednyaya shkola.
(Physics--Study and teaching)

OBUKHOV, V.M.; ZHBANOV, B.V.

Induction thickness gauge. Stek. i ker. 19 no.7:35-37 Jl '62. (MIRA 15:7)

(Calipers)

OBUKHOV, V.M.; ZHBANOV, B.V.

Automatic pressure regulation inside a glass-melting furnace.
Stek. i ker. 18 no. 3:27-29 Mr '61. (MIRA 14:5)
(Glass furnaces)

ZHBANOV, B.V.

Self-recording liquid level indicator. Stek. i ker. 18 no.2:36 F '61. (MIRA 14:3)

(Liquid level indicators)